

REMARKS

I. INTRODUCTION

In response to the Office Action dated April 14, 2004, claims 1, 8, and 15 have been amended. Claims 1-21 remain in the application. Entry of these amendments, and re-consideration of the application, as amended, is requested.

III. PRIOR ART REJECTIONS

In paragraphs (3)-(4) of the Office Action, claims 1-14 were rejected under 35 U.S.C. §102(b) as being anticipated by Chen et al., U.S. Patent No. 5,588,098 (Chen). In paragraphs (5)-(6) of the Office Action, claims 15-21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of Isensee et al., U.S. Patent No. 5,734,805 (Isensee).

Applicant respectfully traverses these rejections.

Specifically, claim 1 was rejected as follows:

Claim 1:

Chen et al. discloses direct manipulation of an 3D object displayed in a 3D representation (col. 2, lines 39-40), comprising: displaying a 3D geometric object (a 3D representation of an object is surrounded by a bounding box 305 of fig. 3; col. 5, lines 31-37); simultaneously displaying (the bounding box and hands 311 and 313 are displayed simultaneously in fig. 3) a first oriented 3D grip glyph directly on the 3D geometric object (the top hand 311 of the bounding box appears to be pulling the bounding box up or pushing down; fig. 3) and a second oriented 3D grip glyph directly on the 3D geometric object (the hands 313; fig. 3), wherein the first oriented 3D grip glyph and second oriented 3D grip glyph provide a direct visual indications of valid movement directions (pulling up or pushing down or pulling around in a circle), during direct manipulating 3D object using the grip glyphs (col. 5, lines 53-60; fig. 3).

Claims 8-14:

The rationale provided in the rejection of claims 1-7 is incorporated herein. In addition, Chen teaches a computer system having a memory and a data storage device (a memory unit 11; fig. 1); a drawing program (col. 4, lines 32-40).

Claims 15-21:

The rationale provided in the rejection of claims 107 is incorporated herein. In addition, Isensee et al. teaches a program storage medium readable by a computer to perform a method (col. 9, lines 29-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the program storage medium readable by a computer as taught by Isensee into the direct manipulation of a 3D object of Chen's teaching for provide a computer product of manufacturing, because it would provide a technique for computer assisted design and manufacturing, graphical shells for operating system such as multimedia programs, virtual reality programs and video games (col. 1, lines 18-22).

programs and video games (col. 1, lines 18-22).

Applicant traverses the above rejections. Namely, neither Chen nor Isensee teach, disclose or suggest the placement of a user-selected graphical object in a drawing, wherein grip glyphs are displayed directly on the user placed graphical object.

Independent claims 1, 8, and 15 have been amended and are generally directed to an invention that provides a method for indicating available modifications to a graphical object displayed in computer drawing program. More specifically, users often select and place 3D objects in a drawing program (see paragraph [0003]). After placement, the user often manipulates the graphical object that the user just placed. The claims provide the ability to display 3D grip glyphs directly on the recently selected/placed graphical object. The grip glyphs indicate the valid movements for the user-selected graphical object.

Neither of the cited references teach nor suggest these various elements of Applicant's independent claims.

Chen merely describes a method and apparatus for direct manipulation of 3-D objects on computer display. This method and apparatus provides for a 3-D bounding region wherein the 3-D bounding region has sensitive areas which the user can select with a reference pointer such that when the user manipulates the reference pointer after selecting a sensitive area the 3-D bounding region and the object within it are manipulated with direct kinesthetic correspondence between the user's manipulation of the reference pointer and the bounding region and object manipulation. (See Abstract). However, what Chen lacks is the ability to display the grip glyphs directly on the object itself. Instead, Chen provides for the use of a bounding box.

Whenever manipulating an object in Chen, Chen displays a bounding box (see col. 5, lines 10-14). The user then manipulates the bounding box instead of grip glyphs directly on the object (that the user selected and placed, as claimed) (see col. 6, lines 13-29). Thus, contrary to the present invention, Chen fails to provide for direct manipulation of the geometric object that the user selected and placed. Instead, the bounding box is being manipulated. Further, Applicant notes that the bounding box is merely inserted automatically by the computer program. In this regard, the bounding box is not selected nor placed by the user in the drawing. Instead, when a 3-D object displayed on a visual display of Chen's computer system is selected by the user, a 3-D "virtual box" or "bounding box" appears on the visual display such that the bounding box completely surrounds the 3-D object. (see col. 5, lines 10-22). Accordingly, instead of displaying Chen's handles of FIG. 3

directly on the graphical object that the user selected and placed, Chen's handles are displayed on a bounding box that is automatically displayed when a user selects a 3-D object. In this regard, Chen fails to provide or allude to displaying handles (or the claimed grip glyphs) directly on the same object that the user selected and placed into the drawing (as claimed). Chen's bounding box is not selected nor placed by the user. Instead, the graphical object (that the bounding box surrounds) is selected. Such a selection in accordance with Chen is clearly distinguishable from and does not render obvious the present invention.

Similarly, Isensee merely describes an apparatus and method for virtual navigation includes a control, which controls the dimensional appearance of a first image on a display. The control comprises a second image associated with the first image and a mechanism for altering the appearance of the first image in response to selecting a portion of the second image. The second image is preferably displayed on a display and includes indicia for representing multiple modes of operation. The mechanism for altering the appearance of the first image is preferably a stored program. Alternatively, the mechanism may be implemented in electronic circuitry. An important element of control is the ability to combine indicia which represent different functions into a unitary control apparatus. Each combination of two or more indicia (e.g., direction, speed, incremental or continuous movement, etc.) results in a unique modular and multi-functional control. However, like Chen, Isensee lacks any discussion about the selection/placement of a graphical object and displaying grip glyphs on the user selected/placed object.

The various elements of Applicant's claimed invention together provide operational advantages over the systems disclosed in Chen and Isensee. In addition, Applicant's invention solves problems not recognized by Chen and Isensee.

In response to the above, the Advisory Action provides:

Arguments are not persuasive because applicants are relying on limitations in a proposed amendment that has not been entered. Further, Chen also teaches: the user informed that the 3D object 301 has been selected. The top hand of the bounding box appears to be pulling up or pushing down or both (placement), see col. 5, lines 24-60.

Applicant respectfully disagrees with the above assertions. With this RCE, Applicant respectfully requests entry of the amendments. With respect to the assertions in the Office Action, Applicant submits that Chen is being improperly applied to the claims. The amended claims provide for two new items: (1) 3D geometric object is user-selected and (2) the user-selected 3D object is placed by a user. Applicant further notes that the remaining claim elements specifically provide that

the 3D oriented grip glyph is displayed directly on the same user-selected 3D geometric object. Firstly, the advisory action submits that Chen teaches selecting object 301. As set forth in FIG. 3 (and col. 5, lines 24-60), item 301 is the chair itself. If this is the 3D object that is user selected, then in accordance with the claims, the 3D grip glyph must be displayed directly on the chair. However, such a grip glyph is not displayed directly on the chair in Chen. Instead, a bounding box is displayed around the chair once the chair is selected (see col. 5, lines 24-60).

The Advisory Action continues and provides that the top hand of the bounding box appears to be pulling up or pushing down or both (placement). Thus, the Advisory Action is asserting that the placement step is performed with respect to the bounding box. Thus, while the Advisory Action asserts that the chair is selected by the user, it then states that the placement is performed with respect to the bounding box. Again, the claims provide that the (1) the object is user selected; (2) the object is placed by a user; and (3) the 3D grip glyph is displayed directly on the object. In other words, the same object is used consistently throughout the claims. The Advisory Action is using two different items from Chen (i.e., the chair itself 301 and the bounding box). Such an application of Chen is inconsistent with the claim language. Thus, if the Advisory Action relies on the bounding box to teach the placement of the object, then in accordance with the claims, the bounding box must also be a user selected 3D object. Instead, Chen's bounding box is not user selected - the chair is user selected and the bounding box is not. Accordingly, Applicant submits that Chen fails to teach (or render obvious) the invention as claimed.

Thus, Applicant submits that independent claims 1, 8, and 15 are allowable over Chen and Isensee. Further, dependent claims 2-7, 9-14, and 16-21 are submitted to be allowable over Chen and Isensee in the same manner, because they are dependent on independent claims 1, 8, and 15, respectively, and because they contain all the limitations of the independent claims. In addition, dependent claims 2-7, 9-14, and 16-21 recite additional novel elements not shown by Chen and Isensee.

IV. CONCLUSION

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicant's undersigned attorney.

Respectfully submitted,


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By his attorneys,

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